UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/722,987	11/26/2003	Leonard Ciprian Mosescu	MSFT-2835/ 306097.01	9026

			EXAMINER
41505	7590	08/24/2006	COLAN, GIOVANNA B

WOODCOCK WASHBURN LLP (MICROSOFT CORPORATION)
ONE LIBERTY PLACE - 46TH FLOOR
PHILADELPHIA, PA 19103

ART UNIT	PAPER NUMBER
2162	

DATE MAILED: 08/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	10/722,987	MOSESCU, LEONARD CIPRIAN
	Examiner	Art Unit	
	Giovanna Colan	2162	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>26 November 2003</u>.

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-36</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>1-36</u> is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on <u>26 November 2003</u> is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some * c) ☐ None of:

        1. ☐ Certified copies of the priority documents have been received.

        2. ☐ Certified copies of the priority documents have been received in Application No. _____.

        3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date <u>11/26/03</u>.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

1.   This action is issued in response to applicant filed application on 11/26/2003.

2.   Claims 1 – 36 are pending.

3.   The information disclosure statement (IDS) submitted on 11/26/2003. The

submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the

information disclosure statement is being considered by the examiner.

Claim Rejections - 35 USC § 102

4.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5.   Claims 1 – 10, and 13 – 22 are rejected under 35 U.S.C. 102(b) as being

anticipated by Green (US Patent App. Pub. No. 2002/0129012 A1, published:

September 12, 2002).

       Regarding Claim 1, Green discloses a method for searching data in an electronic

device comprising:

       storing a plurality of first character strings and corresponding second character

strings (Page 1, [0005], lines 4 – 7, Green[1]);

       receiving a query (Page 2, [0024], lines 7 – 10, Green); and

searching the stored character strings responsive to the query by receiving a

character (Page 1, [0005], lines 1 – 4, Green), appending said character to previously

received characters if any (Page 6, [0050], lines 14 – 17, Green[2]), performing a prefix

search of received characters on the stored second character strings (Page 3, [0032],

lines 8 – 11, Green), and returning a set of first character strings stored with the second

character strings that match the prefix search (Page 3, [0032], lines 8 – 19, Green).

Regarding Claim 2, Green discloses a method, further comprising receiving one

of the first character strings (Page 1, [0005], lines 13 – 14, in response to a search

string, Green), and generating the corresponding second character string (Page 1,

[0005], lines 15 – 18, set of characters from the search string, Green).

Regarding Claim 3, Green discloses a method, wherein the receiving the first

character string comprises:

(A) receiving an input character (Page 1 and 6, [0005] – [0050], lines 13 – 14 and

6 – 8, the bit pattern; respectively, Green);

(B) appending said input character to previously received input characters if any

(Page 6, [0050], lines 14 – 17, the 1 – bit is included in the converted version, Green);

(C) repeating steps (A) and (B) for each additional character received (Page 6,

[0049], lines 1 – 3, Green[3]).

---

[1] Wherein the words correspond to the first character string claimed; and the identifying number
corresponds to the second character strings claimed.
[2] Wherein the step of including and adding corresponds to the step of appending as claimed.
[3] Wherein the step of processing multiple words implies that the steps are repeated as claimed.

Regarding Claim 4, Green discloses a method, wherein generating the second character string comprises:

mapping a first set of characters to a second set of characters (Page 4, [0034], lines 5 – 7, Green); and

building the second character string from the second set of characters using the mapping and the first character string (Page 4, [0034], lines 1 – 5, appropriate values can be selected by mapping, Green).

Regarding Claim 5, Green discloses a method, wherein each of the characters in the second set of characters corresponds to an input point on an input device (Page 2 and 4, [0024] and [0036], lines 7 – 10 and 22 – 25, the computer 12; respectively, Green), and each of the characters in the first set of characters corresponds to a letter of an alphabet (Page 4, [0036], lines 18 – 22, Green).

Regarding Claim 6, Green discloses a method, further comprising storing the mapping as a table (Page 4, [0034], lines 7 – 10, Green).

Regarding Claim 7, Green discloses a method, wherein the storing as a table comprises:

storing each of the characters in the second set of characters in a respective row

in a first column of the table (Fig. 4, item 22, "**1**", Page 3, [0031], lines 8 – 12, Green);

and

storing an associated subset of characters of the first set of characters in a

respective row in a second column of the table (Fig. 4, item 22, "**and**" , Page 3, [0031],

lines 25 – 29, adjacent columns of the character look-up table, Green).

Regarding Claim 8, Green discloses a method, wherein receiving the character

comprises:

receiving input from an input device (Page 2 and 4, [0024] and [0036], lines 7 –

10 and 22 – 25, the computer 12; respectively, Green); and

determining the character from a set of characters that corresponds to the

received input (Page 2, [0026], lines 4 – 10, word number sets are generated for each

term in the query, Green).

Regarding Claim 9, Green discloses a method, wherein the input device .

comprises a plurality of input points, wherein each input point corresponds to a unique

subset of an alphabet (Fig. 4, item 22, Page 3, [0030], lines 1 – 6, Green).

Regarding Claim 10, Green discloses a method, further comprising repeating the

steps (Page 6, [0049], lines 1 – 3, Green[4]) of appending (Page 6, [0050], lines 14 – 17,

---

[4] Wherein the step of processing multiple words implies that the steps are repeated as claimed.

the 1 – bit is included in the converted version, Green), performing a prefix search, and

returning the set, in response to receiving a further character (Page 3, [0032], lines 8 –

19, Green).

Regarding Claim 13, Green discloses a computer-readable medium having

stored thereon computer-executable instructions for performing a method for searching

data in an electronic device comprising:

storing a plurality of first character strings and corresponding second character

strings (Page 1, [0005], lines 4 – 7, Green[5]);

receiving a query (Page 2, [0024], lines 7 – 10, Green); and

searching the stored character strings responsive to the query by receiving a

character (Page 1, [0005], lines 1 – 4, Green), appending said character to previously

received characters if any (Page 6, [0050], lines 14 – 17, Green[6]), performing a prefix

search of received characters on the stored second character strings (Page 3, [0032],

lines 8 – 11, Green), and returning a set of first character strings stored with the second

character strings that match the prefix search (Page 3, [0032], lines 8 – 19, Green).

Regarding Claim 14, Green discloses a computer-readable medium, further

comprising computer-executable instructions for receiving one of the first character

strings (Page 1, [0005], lines 13 – 14, in response to a search string, Green), and

---

[5] Wherein the words correspond to the first character string claimed; and the identifying number
corresponds to the second character strings claimed.
[6] Wherein the step of including and adding corresponds to the step of appending as claimed.

generating the corresponding second character string (Page 1, [0005], lines 15 – 18, set of characters from the search string, Green).

Regarding Claim 15, Green discloses a computer-readable medium, wherein the receiving the first character string comprises computer-executable instructions for:

(A) receiving an input character (Page 1 and 6, [0005] – [0050], lines 13 – 14 and 6 – 8, the bit pattern; respectively, Green);

(B) appending said input character to previously received input characters if any (Page 6, [0050], lines 14 – 17, the 1 – bit is included in the converted version, Green);

(C) repeating steps (A) and (B) for each additional character received (Page 6, [0049], lines 1 – 3, Green[7]).

Regarding Claim 16, Green discloses a computer-readable medium, wherein generating the second character string comprises computer-executable instructions for:

mapping from a first set of characters to a second set of characters (Page 4, [0034], lines 5 – 7, Green); and

building the second character string from the second set of characters using the mapping and the first character string (Page 4, [0034], lines 1 – 5, appropriate values can be selected by mapping, Green).

---

[7] Wherein the step of processing multiple words implies that the steps are repeated as claimed.

Regarding Claim 17, Green discloses a computer-readable medium, wherein

each of the characters in the second set of characters corresponds to an input point on

an input device (Page 2 and 4, [0024] and [0036], lines 7 – 10 and 22 – 25, the

computer 12; respectively, Green), and each of the characters in the first set of

characters corresponds to a letter of an alphabet (Page 4, [0036], lines 18 – 22, Green).

Regarding Claim 18, Green discloses a computer-readable medium, further

comprising computer-executable instructions for storing the mapping as a table (Page 4,

[0034], lines 7 – 10, Green).

Regarding Claim 19, Green discloses a computer-readable medium, wherein the

storing as a table comprises computer-executable instructions for:

storing each of the characters in the second set of characters in a respective row

in a first column of the table (Fig. 4, item 22, "1", Page 3, [0031], lines 8 – 12, Green);

and

storing an associated subset of characters of the first set of characters in a

respective row in a second column of the table (Fig. 4, item 22, "**and**", Page 3, [0031],

lines 25 – 29, adjacent columns of the character look-up table, Green).

Regarding Claim 20, Green discloses a computer-readable medium, wherein

receiving the character comprises computer-executable instructions for:

receiving input from an input device (Page 2 and 4, [0024] and [0036], lines 7 –

10 and 22 – 25, the computer 12; respectively, Green); and

determining the character from a set of characters that corresponds to the

received input.

Regarding Claim 21, Green discloses a computer-readable medium, wherein the

input device comprises a plurality of input points, wherein each input point corresponds

to a unique subset of an alphabet (Fig. 4, item 22, Page 3, [0030], lines 1 – 6, Green).

Regarding Claim 22, Green discloses a computer-readable medium, further

comprising computer-executable instructions for repeating the steps (Page 6, [0049],

lines 1 – 3, Green[8]) of appending (Page 6, [0050], lines 14 – 17, the 1 – bit is included

in the converted version, Green), performing a prefix search, and returning the set, in

response to receiving a further character (Page 3, [0032], lines 8 – 19, Green)

Claim Rejections - 35 USC § 103

6.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

---

[8] Wherein the step of processing multiple words implies that the steps are repeated as claimed.

7.   Claims 11 – 12, and 23 – 37 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Green (US Patent App. Pub. No. 2002/0129012 A1, published: ·

September 12, 2002) in view of Fujisaki et al. (Fujisaki hereinafter) (US Patent No.

5,963,666, issued: October 5, 1999).

        Regarding Claim 11, Green discloses all the limitations as disclosed above

including: set of first character strings corresponding to the second character strings

that match the prefix search (Page 3, [0032], lines 8 – 19, Green). However, Green is

silent with respect to displaying on a display device (Fig. 1, item 110, Col. 3, lines 19 –

21, screen, Fujisaki). On the other hand, Fujisaki discloses displaying (Col. 11, lines 16

– 20, Fujisaki). It would have been obvious to one of ordinary skill in the art at the time

the invention was made to incorporate the Fujisaki's teachings to the system Green.

Skilled artisan would have been motivated to do so, as suggested by Fujisaki (Col. 3,

lines 21 – 25, Fujisaki), to provide interaction between the user and the applications. In

addition, both of the references (Green and Fujisaki) teach features that are directed to

analogous art and they are directed to the same field of endeavor, such as, databases

management systems, string search, and mapping strings. This close relation between

both of the references highly suggests an expectation of success.

        Regarding Claim 12, the combination of Green in view of Fujisaki discloses a

method, further comprising:

receiving a first character string selection of the set of first character strings

shown on the display device (Page 1, [0005], lines 4 – 7, Green[9]); and

displaying the set of character strings stored with the first character string

selection on a display device (Page 3, [0032], lines 8 – 19, Green; and Col. 11, lines 16

– 20, Fujisaki).

Regarding Claim 23, the combination of Green in view of Fujisaki discloses a

computer-readable medium, wherein returning the set of character strings comprises

displaying the set of first character strings corresponding to the second character strings

that match the prefix search on a display device (Page 3, [0032], lines 8 – 19, Green;

and Fig. 1, item 110, Col. 3 and 11, lines 19 – 21 and 16 – 20, screen; respectively,

Fujisaki).

Regarding Claim 24, the combination of Green in view of Fujisaki discloses a

computer-readable medium, further comprising computer-executable instructions for:

receiving a first character string selection of the set of first character strings

shown on the display device (Page 1, [0005], lines 4 – 7, Green[10]; and Col. 11, lines 16

– 20, Fujisaki); and

displaying the set of character strings stored with the first character string

selection on a display device (Page 3, [0032], lines 8 – 19, Green; and Col. 11, lines 16

– 20, Fujisaki).

---

[9] Wherein the words correspond to the first character string claimed.

Regarding Claim 25, the combination of Green in view of Fujisaki discloses a

data searching system, comprising:

a storage device for storing a plurality of first character strings and corresponding

second character strings (Fig. 1, item 18, Page 2, [0024], lines 4 – 7, Green);

an input device for receiving a query (Fig. 1, item 12, Page 2, [0024], lines 4 – 7,

Green);

a display device for displaying a set of character strings (Fig. 1, item 110, Col. 3,

lines 19 – 21, screen, Fujisaki); and

a processor for searching the stored character strings responsive to the query by

receiving a character (Page 7, [0055], lines 12 – 15, Green), appending said character

to previously received characters if any (Page 6, [0050], lines 14 – 17, the 1 – bit is

included in the converted version, Green), performing a prefix search of received

characters on the stored second character strings (Page 3, [0032], lines 8 – 11, Green),

and providing to the display a set of character strings stored with the second character

strings that match the prefix search (Page 3, [0032], lines 8 – 19, Green; and Fig. 1,

item 110, Col. 3 and 11, lines 19 – 21 and 16 – 20, screen; respectively, Fujisaki).

Regarding Claim 26, the combination of Green in view of Fujisaki discloses a

system, wherein the processor receives the first character strings from the input device

(Page 1, [0005], lines 13 – 14, in response to a search string, Green), and generates

---

[10] Wherein the words correspond to the first character string claimed.

the second character strings corresponding to the first character strings (Page 1, [0005], lines 15 – 18, set of characters from the search string, Green).

Regarding Claim 27, the combination of Green in view of Fujisaki discloses a system, wherein the processor is adapted to receive the first character string by

(A) receiving an input character (Page 1 and 6, [0005] – [0050], lines 13 – 14 and 6 – 8, the bit pattern; respectively, Green);

(B) appending said input character to previously received input characters if any (Page 6, [0050], lines 14 – 17, the 1 – bit is included in the converted version, Green); and

(C) repeating steps (A) and (B) for each additional character received (Page 6, [0049], lines 1 – 3, Green[11]).

Regarding Claim 28, the combination of Green in view of Fujisaki discloses a system, wherein the processor generates the second character strings by mapping a first set of characters to a second set of characters (Page 4, [0034], lines 5 – 7, Green), and building the second character string from the second set of characters using the mapping and the first character string (Page 4, [0034], lines 1 – 5, appropriate values can be selected by mapping, Green).

---

[11] Wherein the step of processing multiple words implies that the steps are repeated as claimed.

Regarding Claim 29, the combination of Green in view of Fujisaki discloses a

system, wherein each of the characters in the second set of characters corresponds to

an input point on the input device (Page 2 and 4, [0024] and [0036], lines 7 – 10 and 22

– 25, the computer 12; respectively, Green), and each of the characters in the first set of

characters corresponds to a letter of an alphabet (Page 4, [0036], lines 18 – 22, Green).

Regarding Claim 30, the combination of Green in view of Fujisaki discloses a

system, wherein the storage device comprises a table for storing the mapping (Page 4,

[0034], lines 7 – 10, Green).

Regarding Claim 31, the combination of Green in view of Fujisaki discloses a

system, wherein the table comprises:

a respective row in a first column of the table for storing each of the characters in

the second set of characters (Fig. 4, item 22, "1", Page 3, [0031], lines 8 – 12, Green);

and

a respective row in a second column of the table for storing an associated subset

of characters of the first set of characters (Fig. 4, item 22, "**and**" , Page 3, [0031], lines

25 – 29, adjacent columns of the character look-up table, Green).

Regarding Claim 32, the combination of Green in view of Fujisaki discloses a

system, wherein the processor determines the character from a set of characters that

corresponds to the received input (Page 7, [0055], lines 10 – 12, Green).

Regarding Claim 33, the combination of Green in view of Fujisaki discloses a

system, wherein the input device comprises a plurality of input points, wherein each

input point corresponds to a unique subset of an alphabet (Fig. 4, item 22, Page 3,

[0030], lines 1 – 6, Green).

Regarding Claim 34, the combination of Green in view of Fujisaki discloses a

system, wherein the processor repeats the steps (Page 6, [0049], lines 1 – 3, Green[12])

of appending (Page 6, [0050], lines 14 – 17, the 1 – bit is included in the converted

version, Green), performing a prefix search, and returning the set, in response to

receiving a further character (Page 3, [0032], lines 8 – 19, Green).

Regarding Claim 35, the combination of Green in view of Fujisaki discloses a

system, wherein the display device displays the set of first character strings

corresponding to the second character strings that match the prefix search (Page 3,

[0032], lines 8 – 19, Green; and Fig. 1, item 110, Col. 3 and 11, lines 19 – 21 and 16 –

20, screen; respectively, Fujisaki).

Regarding Claim 36, the combination of Green in view of Fujisaki discloses a

system, wherein the input device receives a first character string selection of the set of

---

[12] Wherein the step of processing multiple words implies that the steps are repeated as claimed.

first character strings shown on the display device (Page 1, [0005], lines 4 – 7, Green[13];

and Col. 11, lines 16 – 20, Fujisaki), and the display device displays the set of character

strings stored with the first character string selection (Page 3, [0032], lines 8 – 19,

Green; and Col. 11, lines 16 – 20, Fujisaki).

---

[13] Wherein the words correspond to the first character string claimed.

Prior Art Made Of Record

1.   Green (US Patent App. Pub. No. 2002/0129012 A1, published: September 12,

2002) discloses a document retrieval system and search method using word set and

character look-up tables.

2.   Fujisaki et al. (US Patent No. 5,963,666, issued: October 5, 1999) discloses a

confusion matrix mediated word prediction.

3.   Luk et al. (US Patent App. Pub. No. 2003/0187856 A1, filed: April 1, 2002)

discloses a database and method for storing a searchable set of keywords.

Points Of Contact

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Giovanna Colan whose telephone number is (571) 272-

2752. The examiner can normally be reached on 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, John Breene can be reached on (571) 272-4107. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Giovanna Colan
Examiner
Art Unit 2162
August 9, 2006

JOHN BREENE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100